

TWO CASES OF LAMINECTOMY FOR FRACTURE OF THE VERTEBRÆ WITH COMPRESSION OF THE CORD.¹

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PERFECT cleanliness in the management of operative wounds has made it possible to invade regions of the human organism that were hitherto regarded as totally inaccessible by even the boldest operators. The results of operations upon the spinal cord or its membranes for disease or injury prior to antisepsis were so discouraging that it was abandoned by nearly all surgeons. A successful case reported by Dr. Macewen, of Glasgow, in 1888, marked the beginning of a new epoch in this particular field of the surgeon's art. Recently, Dr. William White, under whose hands mainly the modern operation was evolved, has made an excellent report of quite a number of successful cases. His results, together with a number of cases reported by others, go to show that extensive resection of the lamina may be accomplished without materially impairing the strength or utility of the spine. That, under modern antiseptic precaution, the danger of consecutive inflammation of the cord and membranes is no longer to be feared. That hæmorrhage is not difficult to control by moderate and prolonged pressure. That the escape of spinal fluid is not a very serious complication. Then, the only ground for objection to operative interference in injuries from traumatism is the difficulty of determining accurately the nature and extent of the damage to the cord. Because of the comparative safety of the operation, the low mortality following it, and because of the fact that, in a large proportion of the recorded cases, fracture of the posterior arch or a dislocation existed, and that, too, when there was no deformity or

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other positive evidence of the condition, I cannot avoid subscribing to the opinion that the doubt should weigh in favor of, rather than against, an operation. It is well that it should be borne in mind that these cases nearly all die when treated expectantly or by extension. And, therefore, the rule formulated by Lauenstein,—namely, “that several weeks should elapse to allow nature’s unaided effort to attempt repair,” should no longer be regarded as a warrantable surgical procedure. The best results are to be expected only when the operation is made immediately after the injury. To sit quietly by in the soft shadows of providence with these cases, and allow them to run their course before relief by operation is attempted, is not in conformity with the teaching of modern and progressive surgery.

In the early part of June, 1893, I assisted Dr. Wyman, of Birmingham, in operating on a negro miner, who had received a spinal injury, eight weeks previously, while digging coal, which produced complete paralysis of both motion and sensation below the distribution of the last dorsal nerve. There was incontinence of urine with purulent cystitis and no control over bowels. The sloughs were very extensive and the patient’s body extremely offensive. The fractured and depressed lamina of the second lumbar was removed and the cord found completely atrophied and disorganized. Of course no hope of a beneficial effect was entertained. The man died about fifteen hours later.

The following day I operated on A. G., who had been injured four days before in the same manner as the case just reported. He also was completely paralyzed, with the usual bladder and rectal symptoms. An examination revealed considerable tenderness over the last dorsal and first lumbar vertebra, with a noticeable separation of the spinous processes without marked lateral deviation. I operated according to the method advised by Dr. White. After separating the tissues on each side of the spines and exposing the arches by means of stout, broad retractors, it was perfectly apparent that fracture had occurred through the lamina, close to the spinous process on one side and luxation with fracture through the articular process of the opposite side of the last dorsal. Thus the posterior arch was almost completely detached and was driven down and pressing upon the cord. I removed this fragment together with the posterior arches of the

vertebræ above and below. The membranes were greatly lacerated and the cord intensely congested. A free oozing was soon controlled by a moderate pressure with iodoform gauze. A small drainage-tube was introduced and the wound closed by deep catgut and superficial silkworm-gut sutures. The cerebro-spinal fluid continued to escape for two weeks after the operation, when the wound healed. There was no discomfort whatever attributable to the operation. Small sloughs formed over each trochanter major about ten days after the operation, but began to heal very soon, and in a few weeks were entirely well. At the end of the fourth week the patient could move each foot slightly and sensation had extended to the knees. Since that time the improvement has progressed but little. I am now convinced that a displacement of the body of the vertebræ existed and the compression was only partially relieved. I believe it would be good surgery to attempt to reduce the luxation by direct means before the laminæ are removed. This might be successfully accomplished by grasping the spines above and below with stout, flat forceps and the leverage thus obtained,—and by at the same time extending the body,—the vertebræ can be guardedly forced into place, when a plaster-jacket applied would retain its position.

These cases seem to me to warrant the following conclusions: (1) That operations for spinal injuries should be done *immediately* after the accident.

(2) And when luxation has occurred, its reduction should be attempted by guarded but forced manipulation directly applied to the vertebræ themselves.